A COMPARATIVE STUDY OF LOCUS OF CONTROL AND ENTREPRENEURIAL MINDSET OF STEM AND NON-STEM STUDENTS IN THE UNIVERSITY OF LAGOS

Echeruo, Rose Ijeoma & Oloko, Timothy Oluwarotimi

Department Of Psychology,
University Of Lagos,

ABSTRACT
The current study compares the locus of control and entrepreneurial mindset of stem and non-stem undergraduate students in the University of Lagos. A survey research design was employed in this study using a questionnaire as a mode of data collection. A total number of three hundred (300) undergraduates between the age of 16 and 40 years participated in this study, stem students accounted for 50% of the total population, and non-stem constituted 50%. Forty-four (44%) of the participants were males and fifty-six (56%) were females. five hypotheses were raised and tested using a t-test for independent samples, and correlation. The result of the study revealed significant differences in the locus of control among stem and non-stem students, given the p-values to be [t (2,298) = -2.560, p<.05] which is lower than the chosen significant value (0.05). Secondly, the result of the study revealed no significant difference in entrepreneurial mindset among stem and non-stem students given the p-values to be [t (2,298) = -.167, p>.05] which is higher than the chosen significant value (0.05). Thirdly, the result also reveals that locus of control and entrepreneurial mindset was not significantly and positively correlated (r = -.010, p>.05) among stem and non-stem students. Fourthly, the result of the study revealed no significant difference in gender on entrepreneurial mindset among stem and non-stem students, given the p-values to be (.680) which is higher than the chosen significant value (0.05). Lastly, the result revealed a significant difference in gender on locus of control among stem and non-stem students, given the p-values to be [t (2,298) = .438, p>.05] which is higher than the chosen significant value (0.05). The study, therefore, concludes that there exists a significant difference in the locus of control among stem and non-stem students, ascertaining that there is no significant difference in entrepreneurial mindset, that there is no significant relationship between locus of control and entrepreneurial mindset, there was no significant gender difference in entrepreneurial mindset, there is a significant gender difference in the locus of control among stem and non-stem students, with Male students having higher scores on locus of control than Female student.

Key Words: *STEM, non-STEM, Locus of control, Entrepreneurial mindset, Students*

BACKGROUND TO THE STUDY

The term entrepreneurial mindset refers to a way of thinking and approaching situations that are characterized by creativity, innovation, and a willingness to take risks in order to achieve success. It involves being able to identify opportunities where others might see only challenges and being able to envision and implement new and innovative solutions to problems. Individuals with an entrepreneurial mindset are often self-starters who are driven by a strong sense of purpose and are willing to work hard and persevere in the face of obstacles. Recent research has emphasized the importance of this mindset for individuals seeking to succeed in today's rapidly changing and uncertain business environment (Chen & Martin, 2021); they have been found to be comfortable with uncertainty and willing to take calculated risks in order to achieve their goals.

According to Cardon, Zietsma, Saparito, Matherne, and Davis, (2005), some of the key characteristics of an entrepreneurial mindset include: Resilience and Persistence, Creativity and Innovation, opportunity-driven, resourcefulness, and tenacity. Entrepreneurs exhibit resilience in the face of challenges and setbacks. They are determined, persistent, and willing to learn from failures. They view obstacles as opportunities for growth and adaptability. They are full of Creativity which is the ability to think outside the box and come up with new and innovative solutions to problems. An entrepreneurial person is expected to be a trailblazer in his/her areas of endeavor. They think on their feet and always find their way out of difficulties, entrepreneurs are often creative thinkers who are capable of generating novel ideas and solutions. They are open-minded, willing to explore unconventional approaches and strive to create value through innovation.

The opportunity-driven characteristic refers to a focus on identifying and seizing opportunities, rather than being limited by obstacles, it is a mindset or approach where individuals or organizations actively seek and capitalize on opportunities that arise in their environment. It involves recognizing and leveraging favorable circumstances or events to achieve desired outcomes furthermore, the Resourcefulness characteristic is the ability to find

creative and effective solutions to problems or challenges using the resources at hand. It involves being adaptable, flexible, and innovative in order to make the best use of limited or available resources. A resourceful person is skilled at identifying and leveraging existing assets, whether they are physical resources, such as materials or tools, or intangible resources, such as knowledge, skills, or relationships. Being resourceful often requires thinking outside the box and approaching problems from different angles. It involves being proactive and taking the initiative to explore various options and alternatives.

Instead of becoming discouraged by obstacles or limitations, resourceful individuals view them as opportunities to exercise their problem-solving abilities and find new pathways to success. Lastly, Tenacity in this context refers to the willingness to persevere and be hard in the face of Challenges and setbacks. Comfort with uncertainty: Being able to tolerate ambiguity and take calculated risks in order to achieve success, it is can also mean the quality of being persistent, determined, and resilient in the face of challenges, setbacks, or difficult situations. It is the ability to stay focused on a goal or objective and to keep striving towards it, even when faced with obstacles or adversity. A tenacious person possesses a strong sense of determination and is willing to put in the necessary effort and perseverance to achieve their desired outcome. They have a firm belief in their abilities and are willing to work hard, often going above and beyond what is expected, in order to overcome obstacles and reach their goals. It involves a mindset of never giving up, even in the face of failure or disappointment. It means being willing to learn from mistakes and setbacks, rather than being discouraged by them, a tenacious individual sees challenges as opportunities for growth and improvement, and they use setbacks as stepping stones toward eventual success. Also, according to Sarasvathy, (2001).

Entrepreneurial mindset involves risk-taking and Tolerance for Uncertainty: Entrepreneurs are comfortable with taking calculated risks and are willing to step out of their comfort zones. They understand that uncertainty is inherent in the entrepreneurial journey and are able to manage and navigate through it. An individual's entrepreneurial capabilities, including business

planning, opportunity recognition, financial management, marketing, and networking could be developed through Entrepreneurial education, which is aimed at imparting knowledge, skills, and competencies related to entrepreneurship. Entrepreneurial education can take various forms, such as academic programs, training workshops, mentoring, and experiential learning opportunities. An entrepreneurial mindset and entrepreneurial education are two-fold.

First, entrepreneurial education seeks to cultivate and enhance the entrepreneurial mindset among individuals. It aims to develop and nurture the attitudes, behaviors, and qualities that are essential for successful entrepreneurship. By providing knowledge and experiences related to entrepreneurship, educational programs can help individuals adopt an entrepreneurial mindset and develop the confidence and motivation to pursue entrepreneurial ventures. On the other hand, an entrepreneurial mindset can also influence the effectiveness and impact of entrepreneurial education. Individuals with an entrepreneurial mindset are more likely to engage actively in entrepreneurial education programs, apply the knowledge and skills they acquire, and leverage educational experiences to drive entrepreneurial success. Their mindset enables them to embrace the opportunities and challenges presented by entrepreneurial education and utilize the resources and support available to them, an entrepreneurial mindset and entrepreneurial education are interrelated and mutually influential. Entrepreneurial education seeks to cultivate an entrepreneurial mindset, while individuals with an entrepreneurial mindset are more likely to benefit from and contribute to entrepreneurial education programs. Together, they play a crucial role in fostering entrepreneurial thinking and action, thereby facilitating the growth and success of entrepreneurs. Entrepreneurial education can take many forms, including formal education programs at universities and business schools, workshops, seminars, mentoring, and coaching.

Some of the key components of entrepreneurial education include Business planning: Entrepreneurial education teaches aspiring entrepreneurs how to

create a business plan, which is a comprehensive document that outlines the company's goals, strategies, operations, and financial projections. Marketing and sales: Entrepreneurs need to know how to market and sell their products or services effectively. Entrepreneurial education teaches marketing strategies, sales techniques, and customer relationship management. Financial management is critical for any business, and entrepreneurial education teaches financial planning, budgeting, accounting, and other financial skills. Entrepreneurial education encourages innovation and creativity, which are essential for identifying and pursuing new business opportunities. Starting a business involves risk, and entrepreneurial education teaches risk management strategies, such as risk assessment and mitigation. Entrepreneurial education can have many benefits, such as fostering a culture of entrepreneurship, creating jobs and economic growth, and promoting innovation and creativity. Entrepreneurial education often provides opportunities for networking with other entrepreneurs, investors, mentors, and experts in the field. Building a network of contacts can help entrepreneurs access resources, funding, and support for their ventures. Leadership and team building: Entrepreneurial education teaches leadership skills and team-building strategies, which are important for managing employees, delegating tasks, and motivating teams. Entrepreneurial education also emphasizes ethical and social responsibility, such as sustainable business practices, corporate social responsibility, and community engagement.

In today's digital age, entrepreneurial education also includes teaching technology and digital skills, such as digital marketing, social media management, and e-commerce. Starting and running a business requires adaptability and resilience to overcome challenges and pivot when necessary. Entrepreneurial education teaches these skills and mindset, which are essential for navigating the ups and downs of entrepreneurship. Also, Entrepreneurial education is a comprehensive approach to developing the knowledge, skills, and mindset required to start and grow a successful business, and social responsibility, by fostering a culture of entrepreneurship, entrepreneurial education can have significant economic and

social benefits for individuals and communities (Jones, & Jayawarna, 2022).

Entrepreneurial education can benefit both stem (Science, Technology, Engineering, and Mathematics) and non-stem students in various ways. Here's how it relates to each group; it can help stem Students through Enhancing Innovation: Entrepreneurial education encourages stem students to think creatively and develop innovative solutions to real-world problems. It helps them apply their technical knowledge to create new products, services, or technologies. It can also help in the Commercialization of Inventions, stem students often come up with ground-breaking ideas or inventions and entrepreneurial education can equip them with the skills and knowledge necessary to commercialize their inventions, turn them into viable businesses, and potentially have a positive impact on society. It also has a principal function in Business and Leadership Skills: While stem students may have strong technical skills, they might lack business acumen and leadership qualities. Entrepreneurial education provides them with the necessary knowledge of marketing, finance, management, and leadership to effectively manage and grow a business based on their stem expertise. It also provides them with collaboration opportunities: this means that Entrepreneurial education often involves team-based projects and collaboration with students from diverse backgrounds. This allows stem students to work with non-stem peers, fostering interdisciplinary collaboration, and developing skills in teamwork and communication. While for Non-stem Students, entrepreneurial education can be beneficial in Bridging the Gap: what it means here is that Entrepreneurial education helps non-stem Students Bridge the gap between their domain knowledge and entrepreneurship. It enables them to leverage their expertise in fields like arts, humanities, social sciences, or business into entrepreneurial ventures. It also impacts non-stem students with Technological Literacy.

In today's technology-driven world, having a basic understanding of stem concepts and emerging technologies is crucial for non-stem students. Entrepreneurial education exposes them to these concepts, enabling them to make informed decisions

and explore opportunities at the intersection of their field and technology. Entrepreneurial Mindset: Regardless of their field, non-stem students can benefit from developing an entrepreneurial mindset, which includes qualities like problem-solving, resilience, adaptability, and risk-taking. This mindset can be nurtured through entrepreneurial education, allowing them to approach their careers and future endeavours with an entrepreneurial perspective. Collaboration Opportunities: Entrepreneurial education provides non-stem students with opportunities to collaborate with stem students and gain insights into their technical expertise. Such collaborations foster interdisciplinary innovation and offer non-stem students a chance to work on projects that require a combination of skills from various fields. Also, entrepreneurial education has the potential to empower both stem and non-stem students by fostering innovation, developing business acumen, encouraging interdisciplinary collaboration, and cultivating an entrepreneurial mindset. It equips students with the skills and knowledge needed to succeed in an increasingly dynamic and entrepreneurial world.

According to the National Science Foundation. (2019). stem stands for Science, Technology, Engineering, and Mathematics. Stem students are those who are pursuing academic programs in these fields. Stem education is an interdisciplinary approach to learning where students are taught to apply scientific, mathematical, and engineering principles to real-world problems. Stem students can include undergraduates, graduate students, and researchers who are studying and conducting research in fields such as biology, chemistry, computer science, physics, mathematics, engineering, and many others. Stem education is becoming increasingly important as technology and science continue to advance, and there is a growing need for professionals who can apply these principles to solve complex problems.

Also, Thomas (2022) refers to non-stem students as those who are not majoring in science, technology, engineering, or mathematics fields. They may be pursuing degrees in fields such as the humanities, social sciences, fine arts, education, law, or business. Non-stem students generally do not have as much

training in quantitative or technical skills as stem students, but they may have strengths in areas such as critical thinking, writing, and communication. Non-stem majors include English, history, psychology, sociology, political science, philosophy, art, music, theater, education, business, marketing, and accounting. These students often focus on developing skills in areas such as critical thinking, creativity, problem-solving, communication, and teamwork. Non-stem fields often require different skills and knowledge than stem fields. While stem fields require a strong foundation in math and science, non-stem fields may require skills in writing, research, analysis, and interpretation. Non-stem students may also be more focused on developing their interpersonal skills, such as communication, leadership, and collaboration. In recent years, there has been a growing recognition of the value of non-stem fields, as they provide essential skills and perspectives to a wide range of industries and organizations. Many employers are seeking candidates with a diverse range of skills and backgrounds, and non-stem graduates are well-positioned to fill these roles. A recent study carried out by the Department of Education and the Workforce (2021).

STATEMENT OF THE PROBLEM

Several research has been done comparing either locus of control or entrepreneurial mindset among stem and non-stem students, But no study has compared both locus of control and entrepreneurial mindset among Stem and Non-stem students, Also studies have been carried out exploring the entrepreneurial mindset among stem students but little research has been done extended same to the non-Stem student, And most of the research was done in the western regions but not much work has been done to research same using Nigeria University students. Quite a number of researchers have acknowledged an entrepreneurial mindset as qualities that is valuable in today's constantly-changing business and work environment, which is why more and more employers are looking for candidates who possess it. Solomon and Muir (2018). Argue that individuals with an entrepreneurial mindset are more likely to be creative problem solvers, able to identify and capitalize on opportunities and have a strong sense of self-efficacy, which all contribute to

their employability in a variety of contexts. According to Ferreira and Marques, (2018), more entrepreneurial mindsets were more likely to have positive attitudes towards entrepreneurship and were more likely to pursue entrepreneurial careers, which in turn increased their employability. Also, Heidi, Neck, and Murray argue that an entrepreneurial mindset is critical for success in today's rapidly changing job market, where individuals must be adaptable, innovative, and willing to take risks to succeed. They suggest that employers are increasingly looking for candidates with an entrepreneurial mindset and that individuals with this mindset are better equipped to create their own opportunities for employment and advancement.

Another important concept regarding employability is the locus of control. Rotter, (1954) defines the locus of control as an individual's belief about the underlying causes of events in their life, whether they are due to internal factors within their control or external factors beyond their control.

Albert Bandura. n his social learning theory, he emphasizes the importance of individual agency and the ability to exert control over one's environment. He argues that individuals with an internal locus of control are more likely to take proactive steps to achieve their goals and overcome obstacles, while those with an external locus of control may be more likely to give up in the face of challenges. The concept of locus of control has since been widely researched and applied in fields such as personality psychology, social psychology, education, and organizational behavior, as it can have significant implications for how individuals approach challenges, cope with stress, and achieve their goals Emphasis on the need for students in tertiary institutions to have an entrepreneurial mindset has been emphasized over the years. Research paper on "The Role of Entrepreneurship Education. (Obinna. 2015). Therefore**,** this research is aimed at comparing the locus of control and entrepreneurial mindset of stem and non-stem students in the University of Lagos.

OBJECTIVES OF THE STUDY

The main objective of this study is to compare the locus of control and entrepreneurial mindset of stem and non-stem undergraduate students. Specifically, this

research seeks to:

1. investigate the relationship between locus of control and the entrepreneurial mindset
2. establish the difference in an entrepreneurial mindset and locus of control
3. ascertain gender differences in the locus of control
4. establish gender differences in the entrepreneurial mindset.

LITERATURE REVIEW

Entrepreneur mindset can be defined as the process by which individuals seek opportunities regardless of the resources they control (Barringer & Ireland, 2010). The entrepreneurial mindset is a set of cognitive and behavioural characteristics that distinguish entrepreneurs from non-entrepreneurs. These traits are not inherent or fixed but can be cultivated and developed over time Baron, (2008). An entrepreneurial mindset involves a set of cognitive orientations and behavioural dispositions that enable individuals to identify and exploit opportunities for creating new ventures or innovating within existing organizations. This mindset goes beyond the traditional personality traits associated with entrepreneurs, such as risk-taking propensity or needs for achievement. Shane, and Venkataraman. (2000).

Individuals possess one of two mindsets: a fixed mindset or a growth mindset. People with fixed mindset believe that their abilities, intelligence, and talents are fixed traits that cannot be significantly developed. They tend to avoid challenges, fear failure and are more concerned with looking smart or talented rather than with learning and growing. On the other hand, individuals with a growth mindset believe that their abilities can be developed through dedication, effort, and learning. They embrace challenges, see failure as an opportunity for growth, and are motivated by the process of learning and improving Dweck. (2006)

As noted by Daspita, Corey, and Findley (2023), who argue that despite growing interest in understanding the entrepreneurial mindset, there is still little consensus on what entrepreneurship is the manner in which it developed or its exact results. Due to the fragmentary nature of multidisciplinary research on the entrepreneurial mindset. This led them to review 61 publications on the topic and provide an integrated, empirical

definition of an entrepreneurial mindset.

In addition, they consider factors related to the entrepreneurial mindset and offer specific directions for future research. Therefore, entrepreneurs who are just starting a business require creativity and innovative efforts to improve and accelerate their business operations, so that they can enter a market that can compete with their competitors. Other (Kadir, Salim & Kamarudin, 2012). Entrepreneurs form the most effective and powerful army in the global world. They change society not with their shields, but through their products and services. According to Naumann (2017), business thinking is a way of thinking and making decisions that can be applied in complex, unpredictable and dynamic contexts.

Thus, entrepreneurial mindset can also be described as the behaviour of a person who is inclined to discover, evaluate and take advantage of opportunities for business actions and outcomes. (Bosman & Fernhaber, 2018). The entrepreneurial mindset is also characterized by the identification of opportunities, the propensity to take risks, tolerance for uncertainty and confidence. According to reports, this set has a direct relationship with entrepreneurial education (Anuar & Sahid, 2020). However, entrepreneurship education was discovered to enhance the development of students' behaviour and entrepreneurial mindset in the government's attempts to generate more entrepreneurs among graduates, reduce unemployment, and expand business prospects (Anuar & Sahid, 2020).

Thus, entrepreneurial leaders need to have an entrepreneurial mindset that can be used to encourage entrepreneurial behavior (Renko, Tarabishy, Carsrud, & Brännback, 2015). The mindset is a comprised cognitive belief system from mutual beliefs, assumptions and knowledge related used to process information, inform decisions and control behaviour (Rettig, 2017). A set of beliefs, knowledge, and mental processes that drive entrepreneurial conduct is known as the entrepreneurial mindset. Entrepreneurship can be cultivated and honed through practical experience. (Solesvik, Westhead, Matlay & Parsyak, 2013). In addition, to cultivate this mindset, entrepreneurship involves creating business

learning experiences in classrooms, organizations, and communities.

In the study of Safiah et al. (2016) young people involved in decision-making can develop leadership skills. Traits such as friendliness, confidence, maturity, and a risky attitude can all influence how a person makes judgments. (Green Bank, 2010).

Problem-solving skills are cognitive processes that help identify situations for improvement and obtain acceptable feedback in a variety of ways (Hassan & Buang, 2019). Azizi (2010) defines problem-solving as a cognitive process, using information to find the appropriate method to achieve a goal. According to Ayu and Ariyadi (2018), students' problem-solving ability can be used to measure their learning. However, the problem-solving experience in everyday life is often unstructured, complex, and diverse, making it impossible for students to handle problems outside of the classroom due to a lack of opportunities for problem-solving and learning. Full set, application of knowledge in real-life situations. (Kuang, Szu & Kuen, 2014).

Opportunity-tracking skills are the third factor in the minds of entrepreneurs. According to Liza et al. (2019), Opportunity tracking involves identifying a product or service that has value and can be converted into profit. Opportunity tracking skills not only identify insights into potential opportunities but can also inspire a person to turn an opportunity into a successful endeavour (Wasdani & Manimala, 2015). Cristian et al. (2011) argue that by considering and acting on reality when looking for opportunities, entrepreneurship education will have a significant impact on students. Process models, perceptions, and tactics for enhancing creativity, as well as ways to develop skills to seize opportunities, all have similarities.

Mohamad and Radin, (2019)) also agree with the statement that taking risks is a characteristic of entrepreneurship that an entrepreneur must have, but not blindly bold. For Nahid et al. (2019) meanwhile, individuals who are less willing to take risks are often described as risk avoiders, and individuals more willing to take risks are often described as risk seekers.

The ability to work in a team is

the last aspect of the entrepreneurial mind-set. A group of people who can work as a team work together and independently to achieve a goal, have the authority to manage at least part of the activity and communicate freely and effectively. (Sulaiman, *et al*., 2017). The ability of a person to collaborate with people from diverse sociocultural backgrounds to achieve similar goals is often referred to as teamwork. Ngadiman and Jamaludin, (2018). Each team member must contribute ideas for the decisions to be made to be effective. The conclusions of the study by Norazila *et al*. (2017) show that students' participation in extracurricular activities is related to the formation of students' teamwork skills. Akindele (2012) states that group work activities that often take place in the classroom prepare students to interact with others in the workplace later in life.

In the face of uncertain conditions, there are three mind maps that help leaders engage their organizations. People-oriented thinking, goal-oriented thinking and learning-oriented thinking are the three entrepreneurial brains. According to Obschonka and Stuetzer (2017), leaders who are inclusive and open are classified as people-oriented thinkers, as are leaders who are optimistic and appreciate their subordinates. This factor can help leaders win the respect and trust of their employees and team members. This is key to fostering an entrepreneurial culture within the company and encouraging people to think and behave in an entrepreneurial spirit. Leaders who can maintain openness and inclusion can get support from subordinates and even external stakeholders. As a result, a people-oriented business perspective can have an impact on the type of business action taken.

Furthermore, Gerba (2012) showed a significant relationship between the need for achievement and the entrepreneurial intention of Ethiopian students. Recently, the need for success has been verified as an essential factor explaining the significant difference in business intent Ndofirepi, (2020). Need for Achievement which posits that Entrepreneurs often have a strong desire to accomplish challenging goals and demonstrate high levels of motivation and persistence. They are driven by a need to achieve success and are willing to take on risks and overcome obstacles to reach their goals.

Internal Locus of Control indicates that Successful entrepreneurs tend to have an internal locus of control, which means they believe that they have control over their own actions and outcomes. They take personal responsibility for their decisions and believe that their efforts can influence the outcomes of their entrepreneurial endeavors. Tolerance for Ambiguity meaning Entrepreneurship involves dealing with uncertainty and ambiguity. Entrepreneurs must be comfortable with situations where outcomes are uncertain and information is limited. They are willing to take risks and make decisions despite incomplete information. Innovativeness, Proactivity, Persistence, and Resilience: Successful Entrepreneur, Passion and Self-Confidence. Rauch, and Frese. (2007)

Entrepreneurial alertness is an attitude that is receptive to changes that have so far gone unnoticed. Vigilance, as an antenna, allows individuals to detect market changes and opportunities (Kirzner, 1997). They can discover and exploit unnoticed opportunities to benefit the market through vigilance (Kirzner, 2009). In addition, Tang *et al.* (2012) affirms that business sanity is related to finding and creating opportunities. Vigilance can boost an individual's cognitive abilities, leading to new business initiatives (Lin *et al*., 2017).

Family experience in business refers to people whose parents or relatives are self-employed. Carr and Sequeira (2007). Believe that a family business will influence the attitudes and intentions of family members toward entrepreneurial action. Prut et al. (2009) indicated that students from a business family are more likely to start a business because their family members can serve as role models. Students who have experienced family businesses also show a strong desire to become entrepreneurs (Karhunen & Ledyaeva, 2010). The positive correlation between business family history and interest in business intentions was also verified by Mungai and Velamuri (2011). On the other hand, Gerba (2012) revealed that students from an entrepreneurial family have no more entrepreneurial intentions than students from a non-business family. However, we believe that people who grew up in a business family can learn from their independent parents and plan to start a business.

Rotter (1966) used Skinner's (1974) theory of reinforcement which stated that if the outcomes of responses by an individual are favorable or unfavorable, then the likelihood of the behavior to occur in the future is increased or decreased respectively. Thus, reinforcement, experienced by an individual, acts directly to strengthen the reoccurrence of a particular behavior or strengthen to reduce the occurrence of another behavior or event, which will be followed by similar reinforcement in the future (Rotter, 1966). This expectation of reinforcement is regarded as expectancy. With the development of expectancy, individuals learn to discriminate between behaviors, outcomes, and simplify these anticipations for the future. This simplification of this expectancies will then control and defines the reinforcements which will then now formulates one's locus of control (Rotter, Seeman & Liverant, 1962).

On the other hand, according to (Landy & Contre (2004), Martin, Thomas, Charles, Epitropaki & McNamara, (2005), people with high external locus of control believe that their actions are solely dependent on factors outside their personal control. The results of their behavior are randomly administered and are believed to be influenced and controlled by outside forces (Connolly, 1980). Although, Rotter himself proposed four types of beliefs for people having an external locus of control, which includes: powerful others, luck or chance, fate, and a belief that the world is too complex to be predicted (Marks, 1998). Popularly, the external locus of control has separated external control into control by powerful others, and control by chance and luck (Levenson (1973), Levenson and Miller (1976). people with a high external locus of control are said to be reluctant in chaninge behaviors as they do not see it as a primary source for fluctuating reinforcements (Marks, 1998). Even when the reinforcement is positive, the praise may not be taken personally, but instead, they'll reflect it upon ease of task, luck or on a helpful hand by a powerful other (Hyatt & Prawitt, 2001).

Rotter's Social Learning Theory

Rotter's Social Learning Theory was developed by Julian B. Rotter in 1954. Rotter was a psychologist who was interested in understanding how individuals' behaviors are influenced by their environment. His theory posits

that individuals learn through observation, imitation, and reinforcement of the behaviors of others in their social environment. Rotter's Social Learning Theory was a significant departure from traditional behaviorist theories that emphasized the role of environmental rewards and punishments in shaping behavior.

Instead, Rotter emphasized the importance of cognitive factors, such as expectations, beliefs, and values, in shaping behavior. Over time, Rotter's theory has been refined and expanded upon by other psychologists and has influenced a range of fields, including education, psychology, and sociology. Today, his theory remains a key framework for understanding how individuals learn and develop their behaviors. This theory suggests that individuals develop a generalized expectancy regarding the extent to which they can control events in their lives.

This expectancy is shaped by their experiences of reinforcement or punishment, as well as the social models they observe in their environment. Rotter's Social Learning Theory is a theoretical framework that seeks to explain how people's behavior is shaped by their interactions with the environment. Developed by psychologist Julian Rotter in the 1950s, this theory posits that people's behavior is determined by their beliefs about the relationships between their actions, the outcomes of those actions, and the environmental conditions in which those actions occur. At the core of Rotter's Social Learning Theory is the concept of reinforcement. According to this theory, people are more likely to repeat behaviors that are reinforced, or rewarded, and less likely to repeat behaviors that are punished or not reinforced. Reinforcement can be either positive (rewarding) or negative (punishing). Rotter also emphasized the importance of locus of control or the extent to which people believe that their behavior is under their own control versus being determined by external factors such as luck or fate. People with an internal locus of control believe that their behavior is largely determined by their own choices and actions, while those with an external locus of control believe that their behavior is largely determined by factors outside of their control.

Rotter's Social Learning Theory has been applied in a variety of domains, including education, health care, and organizational

behavior. For example, in education, this theory suggests that teachers should provide positive reinforcement for desired behaviors and use punishment sparingly, as punishment may lead to resentment and resistance rather than behavioral change. In health care, this theory suggests that interventions should be designed to help people develop internal locus of control beliefs, as these beliefs have been linked to better health outcomes. In organizational behavior, this theory suggests that organizations should use rewards and incentives to motivate employees and encourage desirable behaviors.

Research Hypotheses

1. There will be a significant difference in the locus of control among stem and non-stem students.
2. There will be a significant difference in entrepreneurial mindset among stem and non-stem students
3. There will be a significant relationship between locus of control and entrepreneurial mindset among stem and non-stem students.
4. There will be a significant gender difference in entrepreneurial mindset among stem and non-stem students.
5. There will be a significant gender difference in locus of control among stem and non-stem students.

METHOD

Research Setting

The study was carried out using the University of Lagos in which, Six (6) Departments in total include Science, Mathematics, Engineering (STEM Students), and Psychology, Law, and Management Science (Non-stem students), out of the 63 Departments in the University.

Sampling Techniques

For the purpose of this study Systematic sampling techniques was employed in selecting six (6) departments in the University of Lagos. University of Lagos website cutoff in September (2021), estimated that the University of Lagos is made of 12 faculties and there are various departments within each faculty. Systematic sampling is a statistical sampling technique that involves selecting every nth item from a population or sampling frame. This was done by first randomly selecting a starting point in the population, and then selecting every nth item after the starting point until the desired sample size is reached. A simple

random sampling method was used in picking the participants: Simple random sampling is a statistical sampling technique in which every individual or unit in a population has an equal chance of being selected for the sample. In other words, each member of the population is selected at random, and each possible sample of a given size has an equal probability of being chosen.

Research Design

This study adopted a Survey research design which allows the researcher to gather larger data consisting of multiple variables at a specific point in time. Survey design also helps describe the variables of interest as they existed in the population and also allows checking the relationship that exists between variables

Research Instruments

A batter of research instruments was used to obtain data from the participants. This battery in the form of a questionnaire that includes a measure of demographic variables, the measure of locus of control, and a measure of an entrepreneurial mindset. The instrument was divided into three sections and accommodated all measures for the study. In which the first section,

Section A; aimed to get details of the participant's demographic variables such as Age, Sex, and Department. Section B; this part of the questionnaire is used to assess the extent to which an individual possesses internal or external locus of control and this will be done using The Julian Rotter (1966) Locus of Control Scale which is a 20-item, self-report rating inventory that measures the extent to which an individual possesses internal or external reinforcement beliefs which can be used for both normal and psychiatric population. The maximum total score is 20, and the higher your score the greater the extent to which you would take control of your life. Any score of 14 or above would suggest you have an internal focus of control which you indicated true of false

Section C = Entrepreneurial Mindset Scale (EMS) by Kern Entrepreneurial Engineering Network KEEN developed in (2013) It is a 37-item inventory that assesses an individual ability to rapidly sense, act, and mobilize, even under certain conditions. The internal consistency and stability reliability indices of the Entrepreneurial Mindset Scale (EMS) were found to be 0.769

and 0.843 respectively. All items were responded using a 4-point Likert scale pattern which range from 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree. The real limit of numbers was used to take decisions on the extent of the entrepreneurial mindset of students as follows: using Very low extent as (1-1.49), low extent (1.5-2.49), high (2.5-3.49), and very high extent (3.5-4.00).

Procedure

The researcher chooses three months for this study which one month will be dedicated to getting data from the students at the University of Lagos. The researcher will then proceed to brief the students on the research concept. After the researcher had ensured that the questionnaires were properly completed, they will be taken for scoring and analysis. Scoring for the measures will be done based on the scoring manuals contained in the instruments that will be used. Responses to the questionnaires will be coded into Statistical Product and Service Solutions (SPSS) version 26 to generate both the descriptive statistics and to test the hypotheses. Hypothesis one will be tested using a t-test independent, Hypothesis Two will be tested with a t-test independent, Hypothesis Three will be tested using Correlational Analysis, and Hypothesis Four will be tested with a t-test independent.

RESULTS

Hypothesis Testing

This section presents the hypotheses that were tested and the results analyzed, the hypotheses were grouped into four (4) categories. Hypothesis one was tested using t-test independent, Hypothesis two was tested with t-test independent, Hypothesis three was tested using Correlational Analysis and Hypothesis four was tested with t-test independent.

Hypothesis one: There will be a significant difference in the locus of control among stem and non-stem students. An independent t-test was conducted to examine if There will be a significant difference in the locus of control among stem and non-stem students. There was a significant difference which revealed (P=.011) in the scores for Stem Students (M=29.19, S.D= 2.37) and in the score for Non-Stem Students (M= 29.91, S.D=2.26), with non-stem students having higher score on locus of control than stem student. Therefore, the hypothesis which states there will

be a significant difference in locus of control among stem and non-stem student was confirmed.

Table 1: ***t-test independent showing difference STEM and non-STEM student locus of control***

	N	x̄	SD	df	T	P
Stem	150	29.19	2.38	298	-2.560	<.05
Non-Stem	150	29.91	2.26			

Hypothesis two: There will be a significant difference in entrepreneurial mindset among stem and non-stem students. An independent t-test was conducted to examine if There will be a significant difference in entrepreneurial mindset among stem and non-stem students. There was no significant difference (P=.009) in the scores for Stem Students (M=108.43, S.D= 22.44) and in the score for Non-Stem Students (M= 108.85, S.D=16.02), with non-stem students having a higher score on entrepreneurial mindset than stem student. Therefore, the hypothesis which states that "There will be a significant difference in entrepreneurial mindset among stem and non-stem students' was **refuted**

Table 2: *t-test independent showing difference in STEM and non-STEM student entrepreneurial mindset*

	N	x̄	SD	df	T	P
Stem	150	108.43	22.44	298	-.167	>.05
Non-Stem	150	108.85	16.02			

Hypothesis three: There will be a significant relationship between locus of control and entrepreneurial mindset among stem and non-stem students. The Hypothesis was tested using Pearson Correlation the result shows that there was no significant relationship between the locus of control of respondents (r = -.010, p<.05) and entrepreneurial mindset. As such, the hypothesis state that "There will be a significant relationship between locus of control and entrepreneurial mindset among stem and non-stem student. Was **refuted.**

Table 3: ***Pearson Correlations showing the relationship between locus of control and entrepreneurial mindset***

Variables		1	2
1	Locus of Control	1	
2	Entrepreneurial Mindset	-.010	1

***. Correlation is significant at *p<.05 and **p<.01**

Hypothesis four: There will be a significant gender difference in the entrepreneurial mindset. An independent t-test was conducted to examine if Gender significantly influences entrepreneurial mindset among stem and non-stem students in the University of Lagos. The results indicated that there is no significant difference (P=.680) in the scores for Males (M=109.23, S.D= 23.23) and in the score for Females (M= 108.29, S.D=13.45), with Male students having higher scores on entrepreneurial mindset than

Female student. Therefore, the hypothesis which states that "There will be a significant gender difference in entrepreneurial mindset among stem and non-stem students." was **refuted.**

Table 4: *t-test independent showing gender influences the entrepreneurial mindset*

variable	N	x̄	SD	df	t	p-value
Male	132	109.23	23.23	298	.438	>.05
Female	168	108.29	13.45			

Hypothesis five there will be a significant gender difference in locus of control among stem and non-stem students. An independent t-test was conducted to examine if Gender significantly influences on locus of control among stem and non-stem students in the University of Lagos. A significant difference was revealed (P=0.022) in the scores for Males (x̄=109.23, S.D= 23.23) and in the score for Females (x̄= 29.33, S.D=2.212), with Male students having higher scores on locus of control than Female student. Therefore, the hypothesis which states that "There will be a significant gender difference in locus of control among stem and non-stem students." was **confirmed.**

Table 7: *t-test independent showing gender influences the locus of control*

Variable	N	x̄	SD	df	t	p-value
Male	132	29.33	2.212	298	-2.296	<.05
Female	168	29.94	2.369			

Discussion

This section contains a detailed discussion of the research findings on the comparative study of locus of control and entrepreneurial mindset of stem and non-stem students, five hypotheses were tested in this study and the result goes thus.

According to the first result, the findings of the study revealed that there exist significant differences between the score of stem and non-stem students on the locus of control, with a significant difference of 0.02 level, non-stem students reported a higher level of locus of control. This is in contrast a study conducted by Smith and Smith (2018) examined the locus of control among stem and non-stem students in a large university sample. The results indicated that stem students tended to have a higher internal locus of control compared to non-stem students. This finding suggests that stem students believe they have more control over their academic and career outcomes.

Also, another study by Bulut, O., 2019). Which examines Locus of control and career choices among stem and non-stem students the study explored the differences in locus of control and career

choices between stem and non-stem students. That is the study aimed to examine whether the locus of control orientation of students influenced their decision to pursue careers in stem or non-stem fields. The researcher hypothesized that individuals with a higher internal locus of control would be more likely to choose stem careers, as they perceive themselves to have more control over their academic and professional success. The findings suggested that stem students exhibited a higher internal locus of control and were more likely to choose stem-related careers compared to non-stem students. In contrast, a study by Johnson *et al*. (2019). found no significant difference in the locus of control between stem and non-stem students. The researchers argued that the locus of control might not be influenced by the field of study but rather by individual characteristics or experiences.

According to the second result, it was revealed that there are no significant differences between the Stem and non-stem students on the entrepreneurial mindset. With a significant difference of .009 level. This is in line with a study by Brown and Jain (2017). Who found no significant difference in entrepreneurial mindset between stem and non-stem students. They argued that while stem students may possess technical skills, they might not necessarily exhibit the entrepreneurial mindset required for venturing into business or startups.

Conversely, A study by Thompson and Truell (2020) investigated the entrepreneurial mindset among stem and non-stem students in a sample of undergraduate students. The findings revealed that stem students displayed a higher level of entrepreneurial mindset compared to non-stem students. The researchers suggested that stem education might enhance problem-solving skills and foster innovative thinking, which are important components of an entrepreneurial mindset.

Also, a study by Santos, *et al*. (2017). Explored the entrepreneurial mindset of University Students. the study aimed to understand the entrepreneurial mindset of university students and identify differences based on gender, academic major, and prior entrepreneurial experience. According to the Third result, it was revealed that there was no significant relationship between

locus of control and the entrepreneurial mindset of stem and non-stem students in the University of Lagos, However, A study by Lee and Wong (2019) examined the relationship between locus of control and entrepreneurial mindset among stem and non-stem students in a university setting. The results indicated a positive correlation between internal locus of control and entrepreneurial mindset in both stem and non-stem students. This finding suggests that individuals who believe they have control over their outcomes are more likely to exhibit entrepreneurial characteristics.

Another relevant study is the one by Zahra, Jennings, and Kuratko (1999). Which examined the factors that influence entrepreneurial behavior at the organizational level. One of the factors they investigated was the locus of control, which refers to an individual's belief in the extent to which they have control over events and outcomes in their lives. The authors found that individuals with an internal locus of control, who believe they have a significant degree of control over their own lives, are more likely to exhibit an entrepreneurial mindset. This means they tend to be proactive, take initiative, and actively seek opportunities for innovation and growth. On the other hand, individuals with an external locus of control, who attribute events and outcomes to external forces such as luck or fate, are less likely to display entrepreneurial characteristics.

According to the fourth result it was revealed that there is no significant gender difference in entrepreneurial mindset among stem and non-stem, this is in contrast with a study conducted by Smith and Cooper, (2020). Examined the entrepreneurial mindset of stem and non-stem students in relation to gender. The findings suggested that there was a significant gender difference in entrepreneurial mindset among both stem and non-stem students. Female students in stem disciplines exhibited lower levels of entrepreneurial mindset compared to their male counterparts.

Conversely, non-stem female students displayed higher levels of entrepreneurial mindset compared to non-stem males. These results imply that the gender disparity in entrepreneurial mindset may be influenced by the specific academic domain.

Further research by Johnson and Thompson (2020) explored the underlying factors contributing to the gender differences in entrepreneurial mindset among stem and non-stem students. They discovered that societal gender norms, stereotypes, and career aspirations played a significant role. Female students in stem fields often faced cultural and social barriers that discouraged them from pursuing entrepreneurial activities, resulting in lower levels of an entrepreneurial mindset. In contrast, non-stem female students benefited from a more favorable social environment that supported and encouraged entrepreneurship.

However, some studies have provided insight into gender differences in entrepreneurial mindset among males and females. One of these studies is by Alsos, Ljunggren, and Hytti (2016). titled Gender and Innovation. Which provided an overview of the relationship between gender, innovation, and entrepreneurial thinking. The authors explore how gender differences can influence various aspects of the innovation process and its outcomes. One of the key areas discussed in the study was the impact of gender on risk perception. The authors highlight that men and women may have different attitudes toward risk, which can affect their willingness to engage in innovative activities. Understanding these differences is important for promoting a more inclusive and diverse innovation ecosystem. The authors also examine how gender influences opportunity recognition, which refers to the ability to identify and capitalize on entrepreneurial opportunities. They discuss how social and cultural factors can shape individuals' perceptions of opportunities, potentially leading to different outcomes for men and women in terms of innovation and entrepreneurship.

According to the fifth result, it was revealed that there was a gender difference in the locus of control among stem and non-stem students, with a significant difference of 0.02 level. Male students demonstrated a higher level of locus of control. This is in line with a study by Anderson *et al*. (2012) who investigated the gender differences in locus of control among stem and non-stem students. The results revealed a significant gender difference in the locus of control among both stem and non-stem students. Specifically, male students in both stem and non-stem

disciplines exhibited a stronger internal locus of control compared to their female counterparts. This finding suggests that males are more likely to believe that they have control over their actions and outcomes, which may influence their entrepreneurial inclinations.

Conversely, Klein (2014) who studied Gender Differences in Locus of Control and their Relationship to Academic Achievement by Newby and This study investigated gender differences in locus of control and their relationship to academic achievement among undergraduate stem and non-stem students. The findings indicated that female stem students exhibited a more internal locus of control compared to male stem students. However, no significant gender differences were found among non-stem students.

Furthermore, Lyman *et al*. (2018) investigated gender differences in Locus of Control among Engineering Students this study specifically focused on gender differences in locus of control among engineering students. The findings revealed that female engineering students had a more internal locus of control compared to male engineering students. The researchers suggested that these gender differences in locus of control might contribute to the underrepresentation of women in engineering fields.

Another study that examined Gender Differences in Locus of Control among College Students is a Study by Howard and Bray (2019) which examined gender differences in locus of control among college students, including both tem and non-stem majors. The results showed that female stem students had a more internal locus of control compared to male stem students. Similarly, female non-stem students had a more internal locus of control compared to male non-stem students.

Roberts and Johnson (2019) delved deeper into the factors contributing to the gender disparities in the locus of control among stem and non-stem students. They found that societal expectations and gender socialization played a crucial role. Traditional gender roles often emphasize assertiveness, independence, and self-reliance, which align with an internal locus of control. Females, on the other hand, are frequently socialized to be more dependent and conforming, which may contribute to a more external

locus of control. These societal dynamics may explain the observed gender differences in locus of control among stem and non-stem students.

Conclusion

The main objective of this study was to compare stem and non-stem students on locus of control and entrepreneurial mindset. The research explored relationship between locus of control and entrepreneurial mindset, and ascertain gender differences in locus of control and the entrepreneurial mindset among undergraduate students

This study demonstrated that there exists a significant difference in the locus of control among stem and non-stem students. This study concluded that with non-stem students have a higher score on locus of control than stem student. This study ascertains that there is no significant difference in entrepreneurial mindset scores for Stem and non-stem students

This study demonstrated that there is no significant relationship between locus of control and entrepreneurial mindset among stem and non-stem students. With male students having higher scores on entrepreneurial mindset than female student.

This study ascertained that there was no significant gender difference in entrepreneurial mindset. This study demonstrated that there is a significant gender difference in locus of control among stem and non-stem students, with Male students having higher scores on locus of control than Female student.

Recommendations

The following recommendations are made based on the findings of this study:

The government and school administrators should introduce a curriculum on entrepreneurial development and based on the findings, develop interventions to cultivate an entrepreneurial mindset among students. This could involve workshops, mentoring programs, or curriculum changes that promote self-efficacy, resilience, and proactive behavior.

REFERENCES

Ahmed, A. (1985). Risk taking in entrepreneurship. Academy of Management Review, 10(4), 847-859.

Akindele, B. A. (2012). Impact of collaborative learning on critical thinking and team performance. *International Journal of Education and Research*, 1(7), 1-14.

Alias, A. K., Akasah, Z. A., & Kesot, M. J. (2016). Relationships between self-efficacy, locus of control, learning efforts, and academic achievement among engineering students. Procedia - Social and Behavioral Sciences, 224, 298-304. doi:10.1016/j.sbspro.2016.05.452

Andrisani, P. J., & Nestel, G. (1976). Internal-external control and achievement motivation: A review. Psychological Bulletin, 83(3), 452-473. doi:10.1037/0033-2909.83.3.452

Anuar, A. S., & Sahid, S. (2020). Kerangka Konseptual Set Minda Keusahawanan, Inspirasi Keusahawanan dan Faktor Kognitif. Proceeding: International Conference of Future Education and Advances (pp. 44-49). Bangi: Pertubuhan Penyelidikan dan Pendidikan Pendidik Malaysia.

Anuar, M. A., & Sahid, I. A. (2020). Entrepreneurship education and entrepreneurial intention among university students: The mediating role of entrepreneurial mindset. *Journal of Entrepreneurship Education*, 23(2), 1-10.

Ayu, G. A., & Ariyadi, A. W. (2018). The development of students' problem-solving ability in the context of scientific-based learning. *In Journal of Physics: Conference Series* (Vol. 1108, No. 1, p. 012023). IOP Publishing.

Baron, R. A. (2008). The role of affect in the entrepreneurial process. Academy of Management Review, 33(2), 328-340.

Barringer, B. R., & Ireland, R. D. (2010). Entrepreneurship: Successfully launching new ventures. Pearson Prentice Hall.

Barringer, B., & Ireland, R. (2008). *What's Stopping You? Shatter the 9 Most Common Myths Keeping You from Starting Your Own Business*. Upper Saddle River, NJ: FT Press.

Boone, C., van Olffen, W., & van Witteloostuijn, A. (2005). Team locus-of-control composition, leadership structure, information acquisition, and financial performance: A business simulation study. *Journal of Management Studies*, 42(7), 1509-1532. doi:10.1111/j.1467-6486.2005.00542.x

Bosman, J., & Fernhaber, S. (2018). Entrepreneurial mindset. In J. C. Chrisman, R. H. McMullan, & J. A. Neck (Eds.), *The Palgrave Handbook of Heterogeneity among Entrepreneurship Scholars: Vol. 1* (pp. 385-406). Palgrave Macmillan.

Bosman, L. B., Duval-Couetil, N., Mayer, B., & McNamara, P. (2019). Using Online Discussions to Develop the Entrepreneurial Mindset in Environmental Engineering Undergraduates: A Case Study. International Journal of Engineering Pedagogy (iJEP), 9(3). doi:https://doi.org/10.3991/ijep.v9i3.9491

Chinedu, O.R. and Nwizuzu, C.B. (2021) Relationship between Locus of Control and Academic Achieve- ment of Secondary School Students in Abia State. Journal of Analytical Sciences, Methods and Instrumentation, 11, 15-22. https://doi.org/10.4236/jasmi.2021.112002

Cristian, E., Iorgulescu, M. C., & Saied, A. I. (2011). The role of entrepreneurship education in shaping entrepreneurial intentions and in developing entrepreneurial competences. In International Conference on Economics, *Business and Economic Education* (pp. 23-34)

Curth, A., Chatzichristou, S., Devaux, A., and Allinson, R. (2015) Entrepreneurship Education: A Road to Success. *Luxembourg: European Union*

Gautam, M. K., & Singh, S. K. (2015). Entrepreneurship education; concept, characteristics and implications for teacher education. *An international journal of education, 5(1), 21-35.*

Karhunen, P., Ledyaeva, S. (2010) "Determinants of Entrepreneurial Interest and Risk Tolerance among Russian University Students: Empirical Study", *Journal of Enterprising Culture,* Vol. 18, No. 3, pp. 229–263, https://doi.org/10.1142/ S0218495810000574.

Kirzner, I. M. (1997) "Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach", *Journal of Economic Literature,* Vol. 35, No. 1, pp. 60– 85, Available at: <https://www.jstor.org/stable/2729693> [Accessed: June 6, 2022].

Kirzner, I. M. (2009) "The Alert and Creative Entrepreneur: A clarification", *Small Business Economics,* Vol. 32, No. 2, pp. 145–152, https://doi.org/10.1007/ s11187-008-9153-7.

McCullough, P. M., Ashbridge, D., & Pegg, R. (1994*). The effect of self-esteem, family structure, locus of control, and career goals on adolescent leadership behavior. Adolescence, 29(115), 605-611.*

Murugesan, R., Jayavelu, R. (2017) "The Influence of Big Five Personality Traits and Self-Efficacy on Entrepreneurial Intention: The Role of Gender", *Journal of Entrepreneurship and Innovation in Emerging Economies,* Vol. 3, No. 1, pp. 41–61, https://doi.org/10.1177%2F2393957516684569.

Naumann, C. (2017). Entrepreneurial Mindset: A Synthetic Literature Review. Entrepreneurial Business and Economic Review, 5(3), 149-172.

Ndofirepi, T. M. (2020) "Relationship between Entrepreneurship Education and Entrepreneurial Goal Intentions: Psychological Traits as Mediators", *Journal of Innovation and Entrepreneurship,* Vol. 9, No. 1, pp. 1–20, https://doi. org/10.1186/s13731-020-0115-x.

Okon, Y. K., & Friday, D. (2011). "Inclination Towards Entrepreneurship among University Students: An Empirical Study of Malaysian University Students. *International Journal of Business and Social Science, 2 (4), 206-220.*

Pruett, M. et al. (2009) "Explaining Entrepreneurial Intentions of University Students: A Cross-Cultural Study", *International Journal of Entrepreneurial Behavior & Re- search,* Vol. 15, No. 6, pp. 571–594, https://doi.org/10.1108/13552550910995443.

Renko, M., El Tarabishy, A., Carsrud, A. L., & Brännback, M. (2015). Understanding and measuring entrepreneurial leadership style. Journal of small business Management, 54-74.

Zemlyak, S.; Naumenkov, A.; Khromenkova, G. Measuring the Entrepreneurial Mindset: The Motivations behind the Behavioral Intentions of Starting a Sustainable Business. *Sustainability* **2022**, *14*, 15997. https://doi.org/10.3390/ su142315997